Port of Seattle Pier 64/65 thin-layer sediment cap; Monitoring results 1994-2004

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Abstract

In March 1994, the Port of Seattle placed a thin-layer cap of Duwamish River Turning Basin sediments over 3.9 acres of contaminated sediments at the former site of Pier 64/65 in Seattle (Polaris Applied Sciences 2002; 2003a). Surface and sub-surface sediment chemistry samples were collected on the cap in 1994, 1997, and 2002. Results in 1994 and 1997 show no contaminant concentrations exceeding Washington State Sediment Management Standards (SMSs) criteria, except in three samples. Results for 2002 samples show PAHs greater than SMSs criteria in surface sediments, likely due to re-contamination from nearby piling maintenance work. Benthic infauna samples collected in 2002 reflect the relative degree of re-contamination (Polaris Applied Sciences 2003b). Chemistry results for one sub-surface sample show PCB and mercury concentrations exceeding criteria associated with black silt/clay inclusions in the cap material. The PCBs may be from the Duwamish River Turning Basin, the source of the cap material, although other sources are also possible. Additional sediment core samples were collected in 2004 in response to earlier findings (Polaris Applied Sciences 2004). Cap thickness measurements in the cores show a mean cap thickness of 1.49 feet (45.4 cm). Chemistry results show the cap has successfully isolated underlying contaminants with no SMSs exceedances in any sample except at two stations, one with no cap material. PCBs and mercury concentrations exceeding SMSs criteria in sub-surface cap material were limited to one station.

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